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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,074	04/27/2001	Alberto Carra	07040.0081	8494

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP
1300 I STREET, NW
WASHINGTON, DC 20005

EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 07/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/843,074

Applicant(s)

CARRA ET AL.

Examiner

Steven D. Maki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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- 1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2) Claims 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 17 and 18, the relationship, if any, between the claimed "means for mutual engagement of the blocks of the intermediate and central rows" in claims 17 and 18 and (b) the circumferential sipes of claim 1 is unclear.

- 3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 4) **Claims 1-4, 9-14 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al (US 6170546) in view of Europe '723 (EP 538723) and at least one of Lurois (US 5297604), Japan '810 (JP 3-16810) and Semin et al (US 4641696).**

Koyama et al, directed to preventing abnormal wear, improving water drainage and maintaining snow traction for a heavy duty tire such as a truck tire, discloses a tire having a tread, sidewalls, carcass, belt and beads. See figure 1. The tread includes wide circumferential grooves G1, a pair of center block rows and a pair of intermediate block rows wherein each center block row is separated from an adjacent intermediate block row by a narrow circumferential groove G2 having a width of 2 - 4 mm. The

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claimed circumferential sipes read on Koyama et al 's narrow circumferential grooves G2. The center blocks of one row are circumferentially staggered relative to the center blocks of the other row. See figure 2. The center blocks are also circumferentially staggered with respect to the intermediate blocks. See figure 2. Transverse grooves separate the blocks of each block row. The transverse grooves between the intermediate blocks and the center blocks on one side of the EP converge in one direction and the transverse grooves between the center blocks and intermediate blocks on the other side of the EP converge in the opposite direction. The wide circumferential grooves have a depth Hg1 of 18-21 mm. As can be seen in figure 1, a depth of the transverse grooves at the outer ends thereof is the same the depth of the wide circumferential grooves. Koyama et al does not recite that the transverse grooves are provided such that "a depth of the first and second transverse grooves have a depth equal to at least 95% of the thickness of the tread".

As to claim 1, it would have been obvious to one of ordinary skill in the art to provide Koyama et al 's transverse grooves such that "a depth of the first and second transverse grooves have a depth equal to at least 95% of the thickness of the tread" since (a) Koyama et al , directed to a heavy duty tire such as a truck tire, shows the depth of the transverse grooves at the outer ends thereof as having a depth equal to the depth of the wide circumferential grooves which have a deep depth of 18-21 mm and (b) Europe '723, directed to truck tires, suggests using relatively deep grooves (e.g. a depth of 22 mm) such that the deepest grooves extend into the relatively thin tread base. With respect to "a depth of the first and second transverse grooves have a depth equal to at

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least 95% of the thickness of the tread", the following comments are made: First: Claim 1 fails to require *constant depth* first and second transverse grooves. In other words, claim 1 fails to require the *entire length* of each transverse grooves to have the "depth equal to at least 95% of the thickness of the tread". Second: The description of "the thickness of the tread" reads on "the thickness of the tread cap". With respect to the tread cap, Europe '723 suggests using a groove depth of greater than 100% of the thickness of the tread cap. The range of greater than 100% falls with the claimed range of at least 95%. In any event: Europe '723 is seen as suggesting a groove depth of at least 95% of the total depth of the tread cap and tread base since (1) Europe '723 teaches that the thickness of the tread cap (e.g. 6.5 - 25 mm) is greater than the thickness (2 mm to 20.5 mm) of the tread base and (2) Europe '723 teaches that outer cap encompasses at least 25% of the depth of the deepest grooves and the tread base encompasses upto 75% of the depth of the deepest grooves.

Furthermore, it would have been an obvious alternative to provide the converging transverse grooves on one side of the tire equator and the converging transverse grooves on the other side of the EP to converge in the same direction instead of opposite directions in view of at least one of Lurois, Japan '810 and Semin et al's suggestion to arrange transverse grooves so as to converge in the same direction and thereby define a directional tread pattern. Lurois suggests using such converging transverse grooves for a tire, which like that of Koyama et al, is used for heavy vehicles. Japan '810 suggests using such converging transverse grooves to improve drainage performance without increasing noise. Semin et al suggests using such

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converging grooves to promote flow of water away from the tread. With respect to water drainage, Koyama et al teaches using the wide circumferential grooves to improve the water drainage. See col. 2 lines 35-38.

As to the dependent claims: The claimed transverse groove width of 8-11 mm would have been obvious in view of Koyama et al 's teaching to use an average width of at least 5 mm for the transverse grooves. As to claim 13 (width of longitudinal grooves is 10-14 mm), Koyama et al suggests using a wide groove width of 7 to 13 mm. As to claim 4, the limitation of the depth of the longitudinal lateral grooves having a depth equal to at least 95% of the thickness of the tread would have been obvious in view of the above noted suggestion from Europe '723 to use relatively deep grooves. As to claim 9, the claimed angle of 10-15 degrees would have been obvious since Koyama et al suggests inclining the transverse grooves at a relatively small acute angle with respect to the axial direction. As to claim 10-12, the claimed quantity of staggering would have been obvious since (a) Koyama et al suggests staggering the blocks and optionally (2) it is taken as well known / conventional in the tread art to circumferential shift blocks of different rows by one half pitch to reduce noise - only the expected results (reduced noise) being obtained. As to claim 13 (max width of 3 mm), Koyama et al suggests a width of 2-4 mm for the narrow circumferential grooves. As to claim 14, the claimed depth of 19-22 mm for the circumferential sipes would have been obvious in view of Koyama et al's teaching that the depths of the circumferential narrow grooves is "not more than" the depth (18-21 mm) of the wide circumferential grooves - relatively deep narrow circumferential grooves thereby being contemplated. As to claims 17 and

18, the limitations therein would have been obvious in view of Koyama et al 's suggestion to provide the narrow circumferential grooves as zig-zag narrow circumferential grooves having a width of for example 2 mm. As to claim 19, the claimed width of 8-15 mm for the central longitudinal groove would have been obvious in view of Koyama et al 's suggestion to use a wide groove width of 7 to 13 mm (the central groove being a wide groove). As to claim 20, the claimed depth of 19-22 mm for the central longitudinal groove would have been obvious in view of Koyama et al's suggestion to use a wide groove depth of 18-21 mm (the central groove being a wide groove).

5) Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al (US 6170546) in view of Europe '723 (EP 538723) and at least one of Lurois (US 5297604), Japan '810 (JP 3-16810) and Semin et al (US 4641696) as applied above and further in view of Henry (WO 96/36501).

As to claims 5-8, it would have been obvious to provide the claimed elastic connection means / relief in transverse shoulder groove since (a) Koyama et al shows a relief in the shoulder grooves (see figure 1) and (b) it is well known connect shoulder blocks using a relief as shown for example by Henry. As to claim 7, Koyama et al suggests circumferentially staggering the shoulder blocks with respect to the other blocks. See figure 2. As to claim 8, it would have been obvious to provide the shoulder blocks of Koyama et al's block tread pattern with the claimed facets since a block pattern having shoulder blocks with facets at the tread edges in order to improve traction or wandering is taken as well known / conventional per se.

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6) **Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al (US 6170546) in view of Europe '723 (EP 538723) and at least one of Lurois (US 5297604), Japan '810 (JP 3-16810) and Semin et al (US 4641696) as applied above and further in view of Goergen et al (US 4823855).**

As to claims 15 and 16, it would have been obvious to provide Koyama et al's transverse grooves with the claimed three sections since Goergen et al suggests using converging transverse grooves having three sections in a directional tread pattern in order to improve traction.

7) **Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al (US 6170546) in view of Europe '723 (EP 538723) and at least one of Lurois (US 5297604), Japan '810 (JP 3-16810) and Semin et al (US 4641696) as applied above and further in view of Trabandt et al (US 5549146).**

As to claims 21 and 22, it would have been obvious to provide the claimed reliefs in the central wide circumferential groove of Koyama et al since Trabandt et al suggests locating reliefs in a circumferential groove so that stones can be ejected.

Remarks

8) Aoki et al (US 5385189, figures 10 and 11B) is cited of interest as having a tread pattern similar to that of Koyama et al (applied above). Koyama et al (US 6170546) is an equivalent to Europe '209 (887209) cited by applicant. The remaining references are of interest.

9) No claim is allowed.

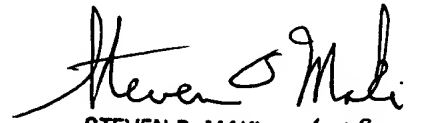
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10) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is 703-308-2068. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Steven D. Maki
June 29, 2003


STEVEN D. MAKI 6-29-03
PRIMARY EXAMINER
-GROUP 1300
Au 1733